



Home Loan Approval Analysis





Meet The Presenter



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New Business
Innovation, Artificial
Intelligence & Machine
Learning

Business Understanding

Purpose of Model

- Approve or deny loan applications

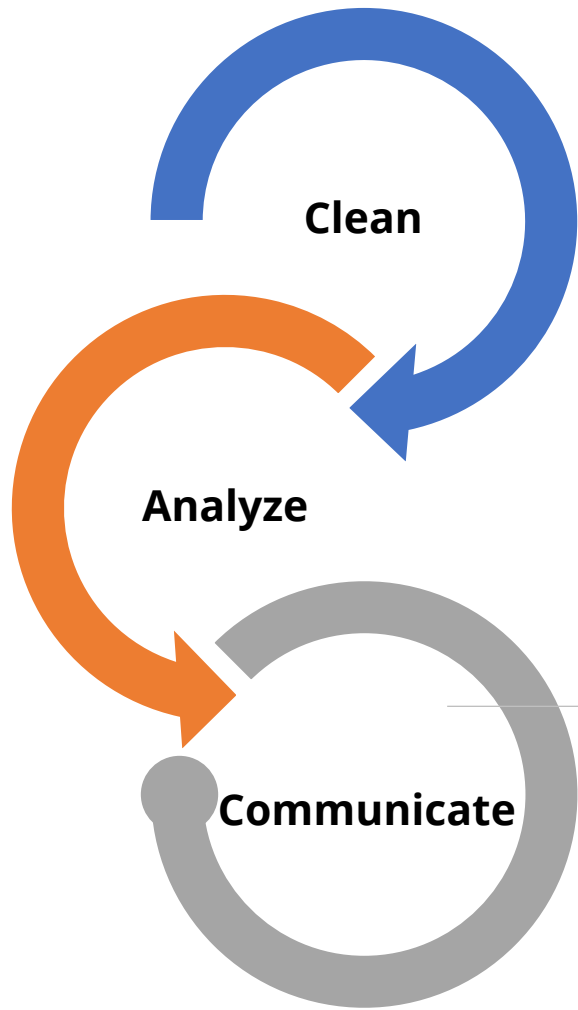
Industry

- A home loan approval classification model is useful to financial institutions, including banks, credit unions and mortgage lenders.

Uses of model

- Quick and accurate loan application processing
- Consistent decision-making across all loan applications
- Reduction of bias in the approval process
- Prediction of the likelihood of default by an applicant

Data Understanding and Analysis



Data Understanding

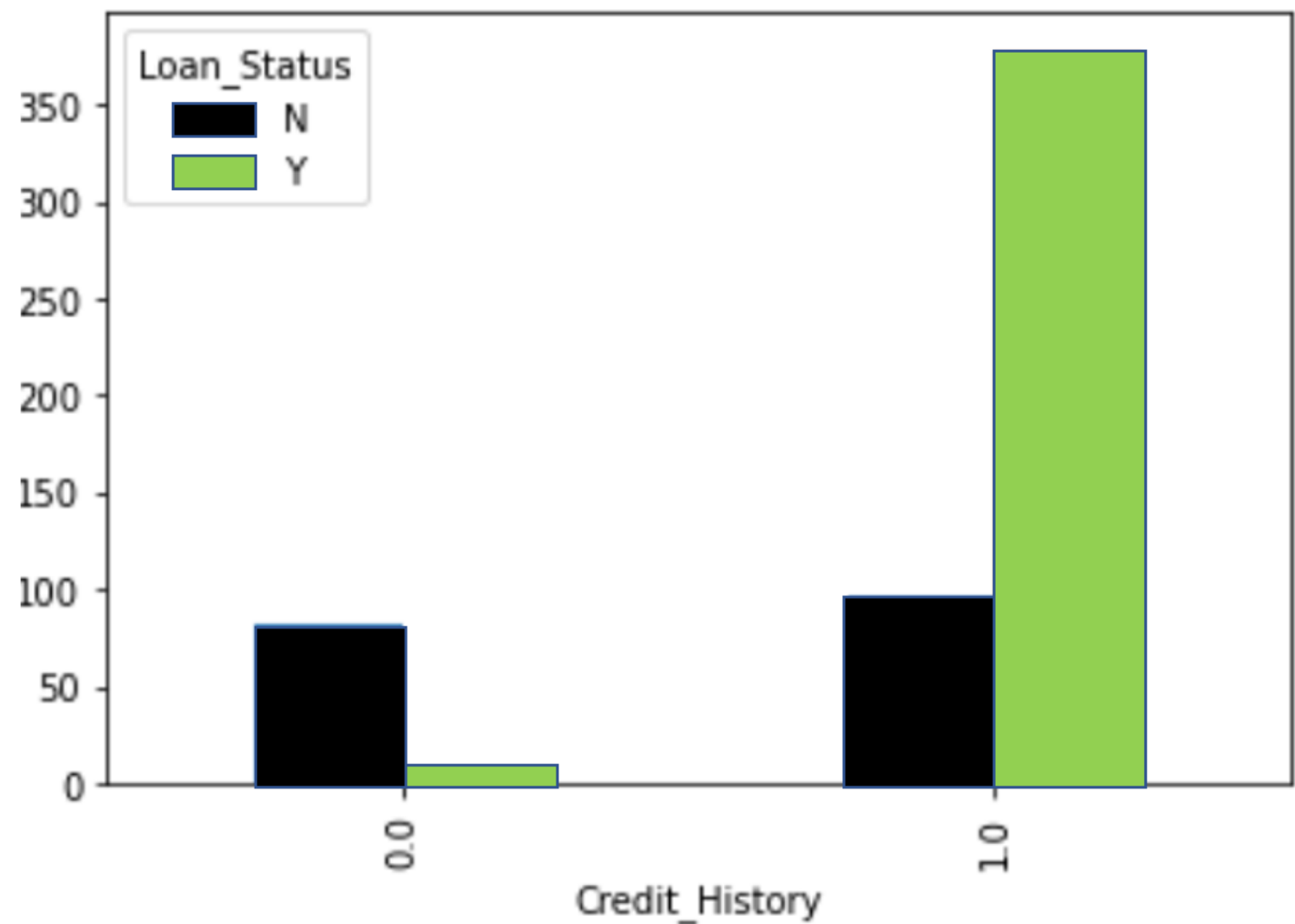
- Data source: Dream Housing Financing Company (DHFC) found at [kaggle](#)
- Training set: 614 entries, 13 Features
- Test set: 367 entries, 12 features (excludes target variable)
- The dataset consists of the following 13 features:
Loan_ID, Gender, Married, Dependents, Education, Self_Employed, ApplicantIncome, CoapplicantIncome, LoanAmount, Loan_Amount_Term, Credit_History, Property_Area, Loan_Status.

Data Analysis

- Many features contain data imbalances.
- Credit_History is the most significant feature in evaluating Loan_Status in this dataset

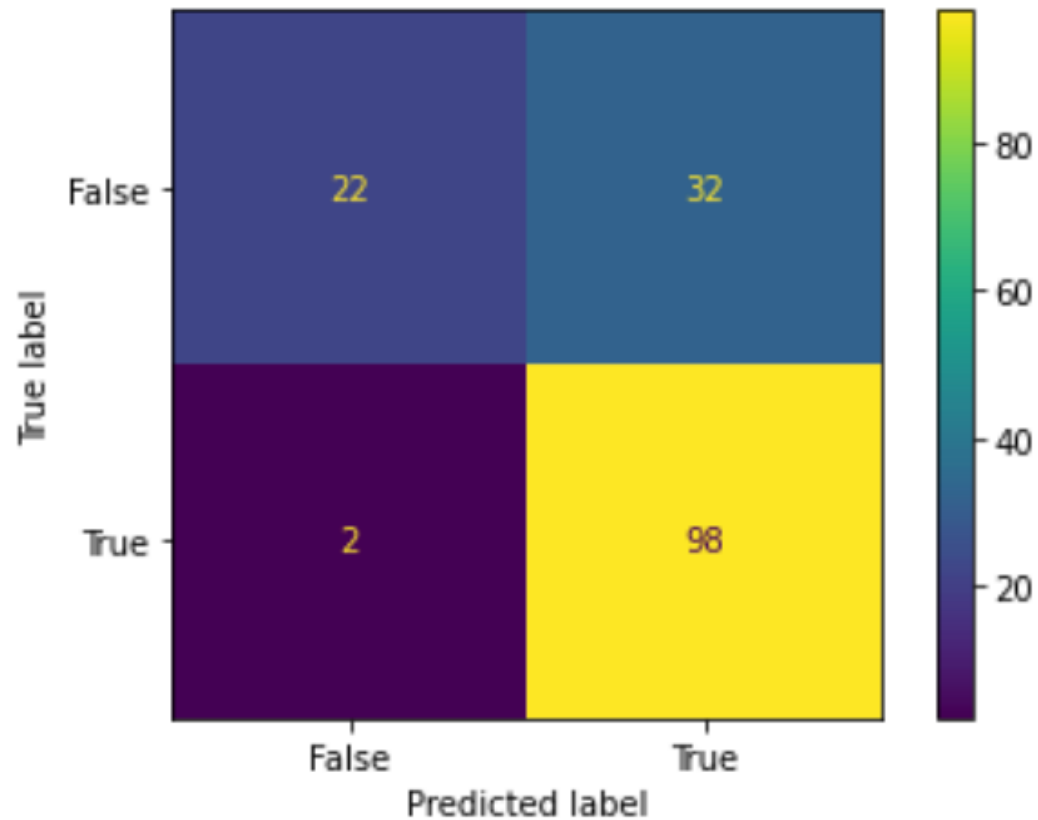
The Importance Of Good Credit

Loan_Status	N	Y
Credit_History		
0.0	82	7
1.0	97	378



By The Numbers

	Precision	Recall	F1-score	
N	0.92	0.41	0.56	
Y	0.75	0.98	0.85	
Accuracy			0.78	



Conclusion

Overall, a home loan classification model that accurately classifies whether a loan applicant has been approved or not can have significant benefits for lenders. It can standardize the loan approval process, reduce the risk of loan defaults, save time for loan officers, and help ensure compliance with regulatory requirements.

Questions